

An Agile Aerial Sensor System Tailored for In-Situ Cloud Measurements, Phase I

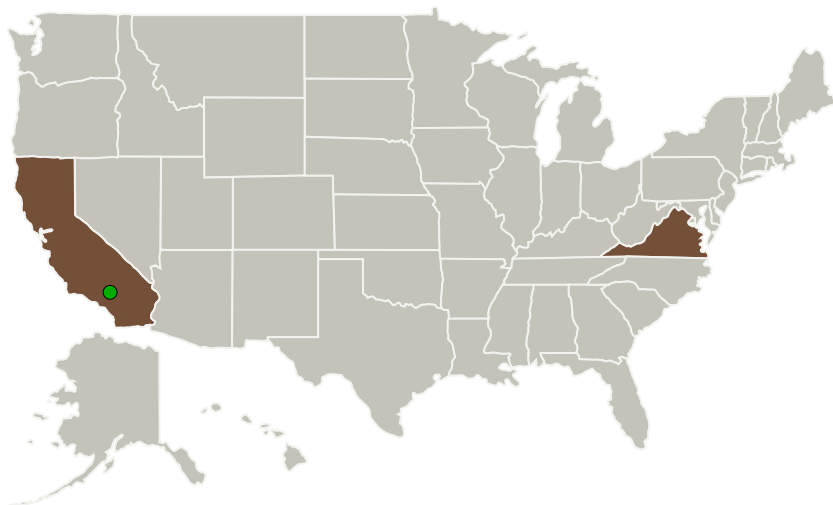
Completed Technology Project (2016 - 2016)




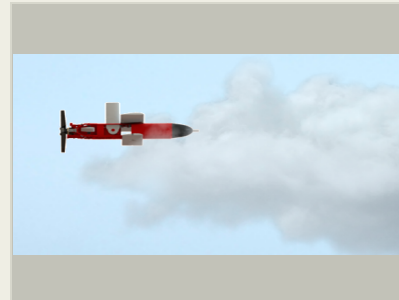
Project Introduction

Barron Associates is proposing a novel atmospheric sensor platform that fills a gap in current sensing capabilities by providing a low-cost, portable technology that can be used for guided remote sensing applications such as cloud characterization, volcanic plume measurements, and polar atmospheric research. The proposed sensor platform consists of compact, tube-deployed UAVs equipped with atmospheric sensors and a custom launch system. Initial development of the sensor-UAV was performed during a NASA Phase I Contract in 2014. Barron Associates is proposing a development schedule that builds upon the prior Phase I technology to mature the sensor-UAV and launch system in preparation for Phase II cloud measurement tests.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Barron Associates, Inc.	Lead Organization	Industry	Charlottesville, Virginia
 Armstrong Flight Research Center (AFRC)	Supporting Organization	NASA Center	Edwards, California



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Primary U.S. Work Locations

California

Virginia

Project Transitions

June 2016: Project Start

December 2016: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139831>)

Images



Briefing Chart Image

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(<https://techport.nasa.gov/image/130221>)



Final Summary Chart Image

An Agile Aerial Sensor System Tailored for In-Situ Cloud Measurements, Phase I Project Image

(<https://techport.nasa.gov/image/136087>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Barron Associates, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

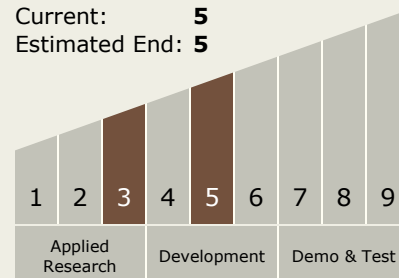
Carlos Torrez

Principal Investigator:

David A Neal

Technology Maturity (TRL)

Start: 3
Current: 5
Estimated End: 5



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.3 In-Situ Instruments and Sensors
 - └ TX08.3.4 Environment Sensors

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System